

THE PORT AUTHORITY
OF NY & NJ

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The World Trade Center
Electrical/HVAC
Upgrade Program

Title
TOWER ONE AND TWO
LOW VOLTAGE
SUBSTATIONS
CONSTRUCTION AND
INSTALLATION

ELECTRICAL
CONSTRUCTION
STAGING

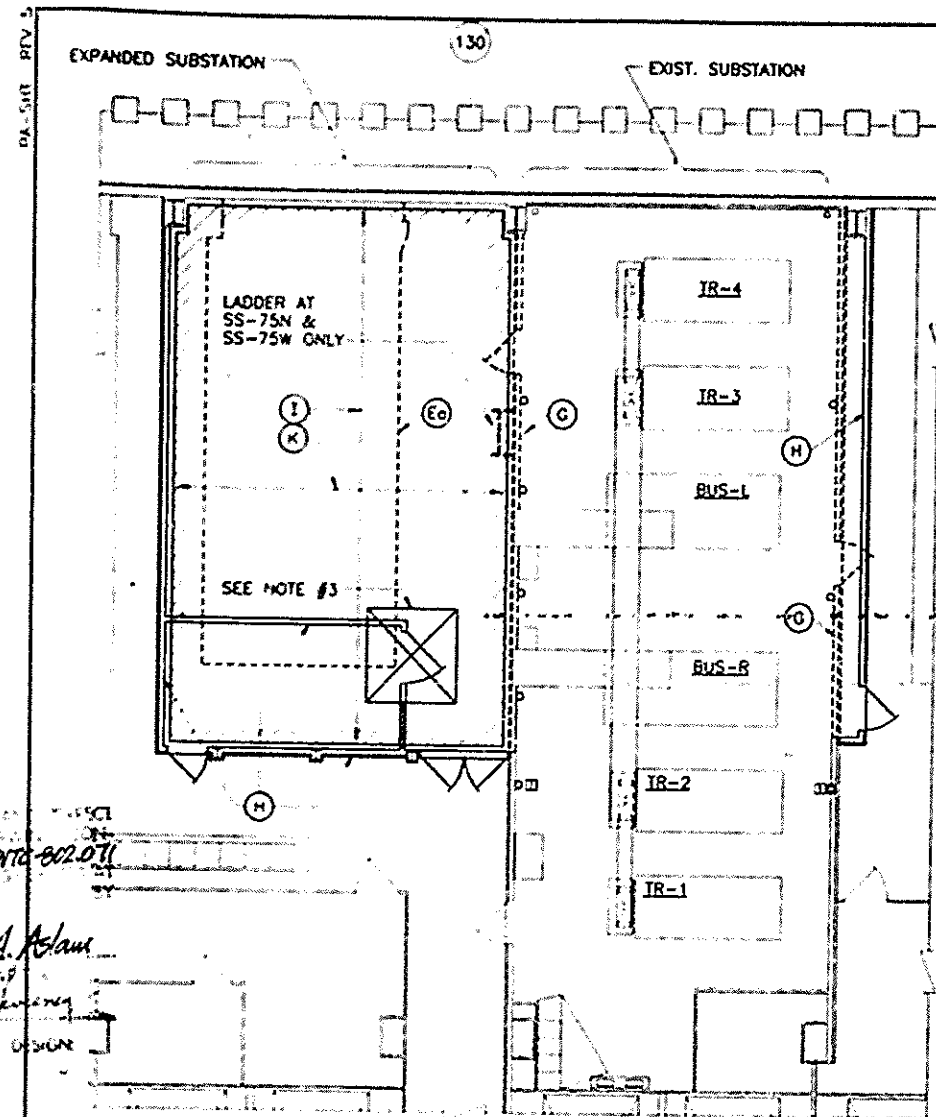
No. Date Revision Approved

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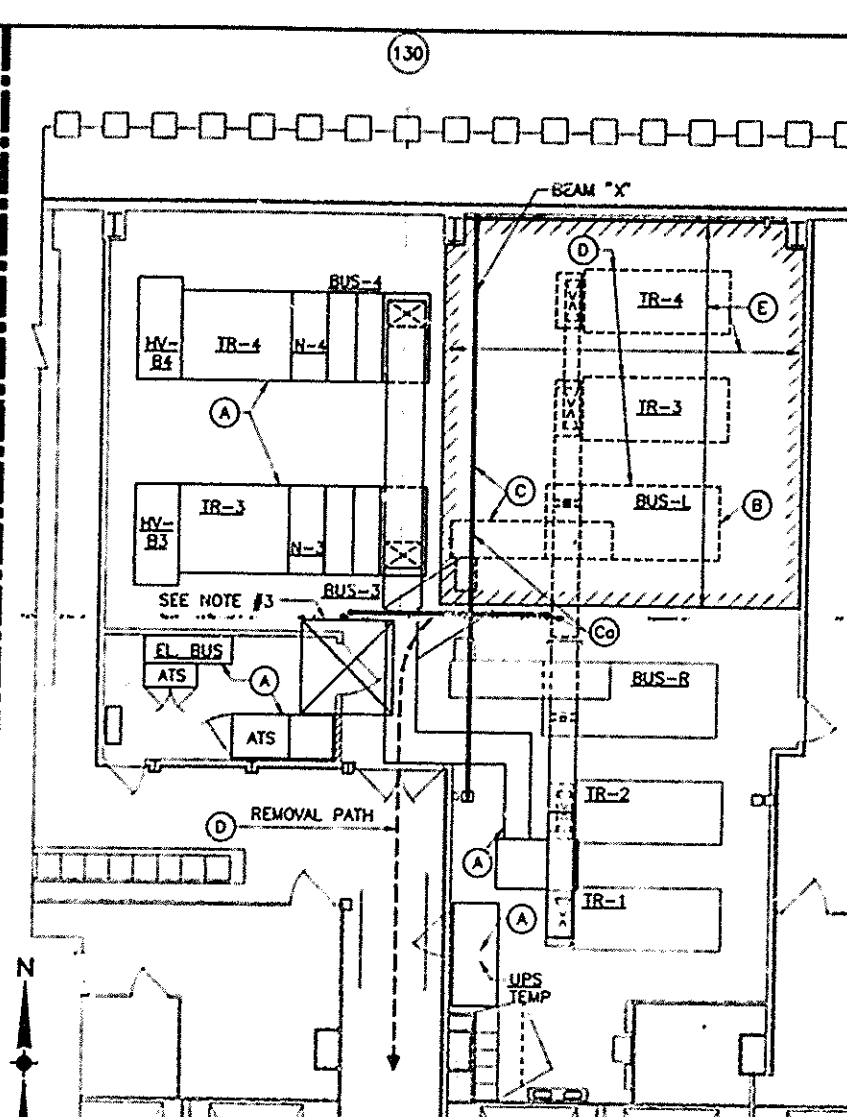
LEAHY/
FISCHER
Designed by LEAHY
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Date 5-1-95 Scale

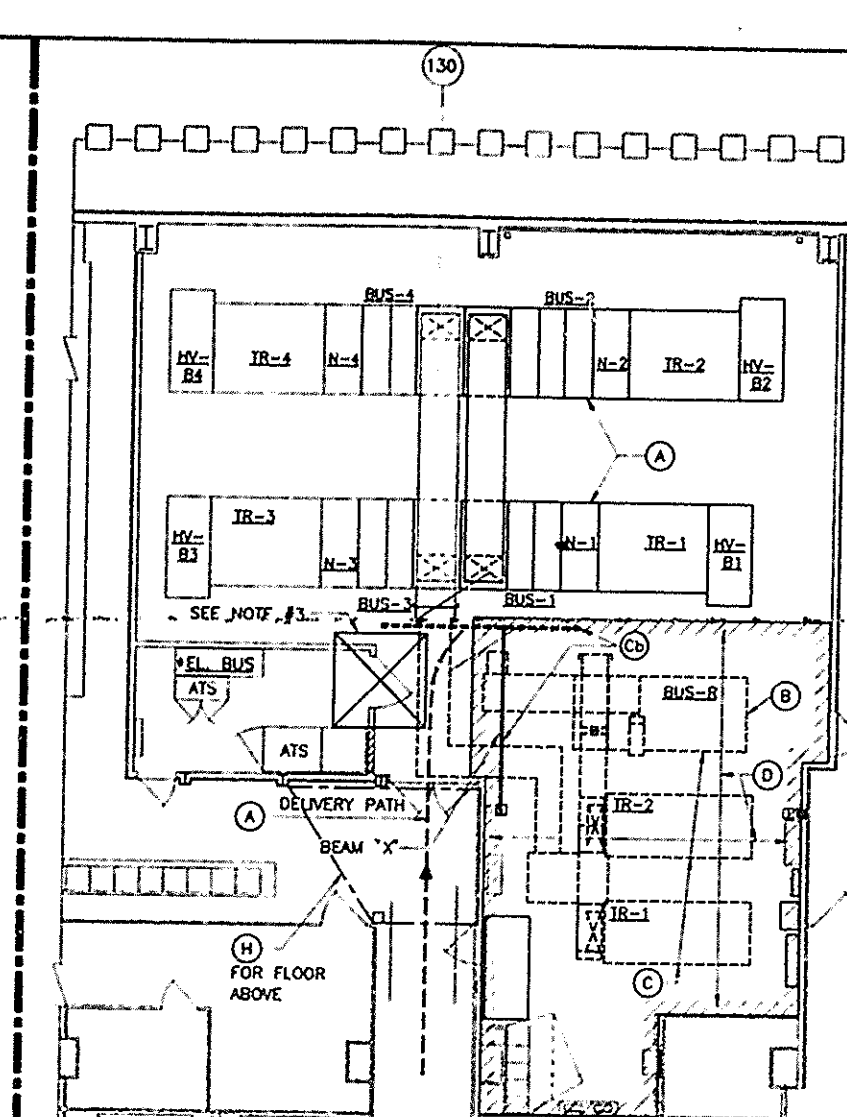
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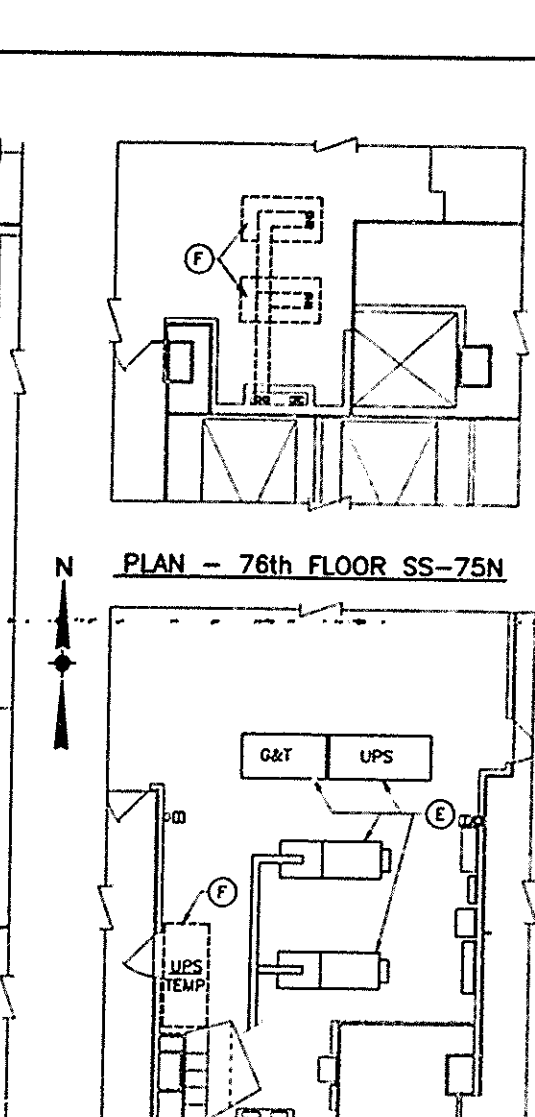
PLAN - 75th FLOOR SS-75N



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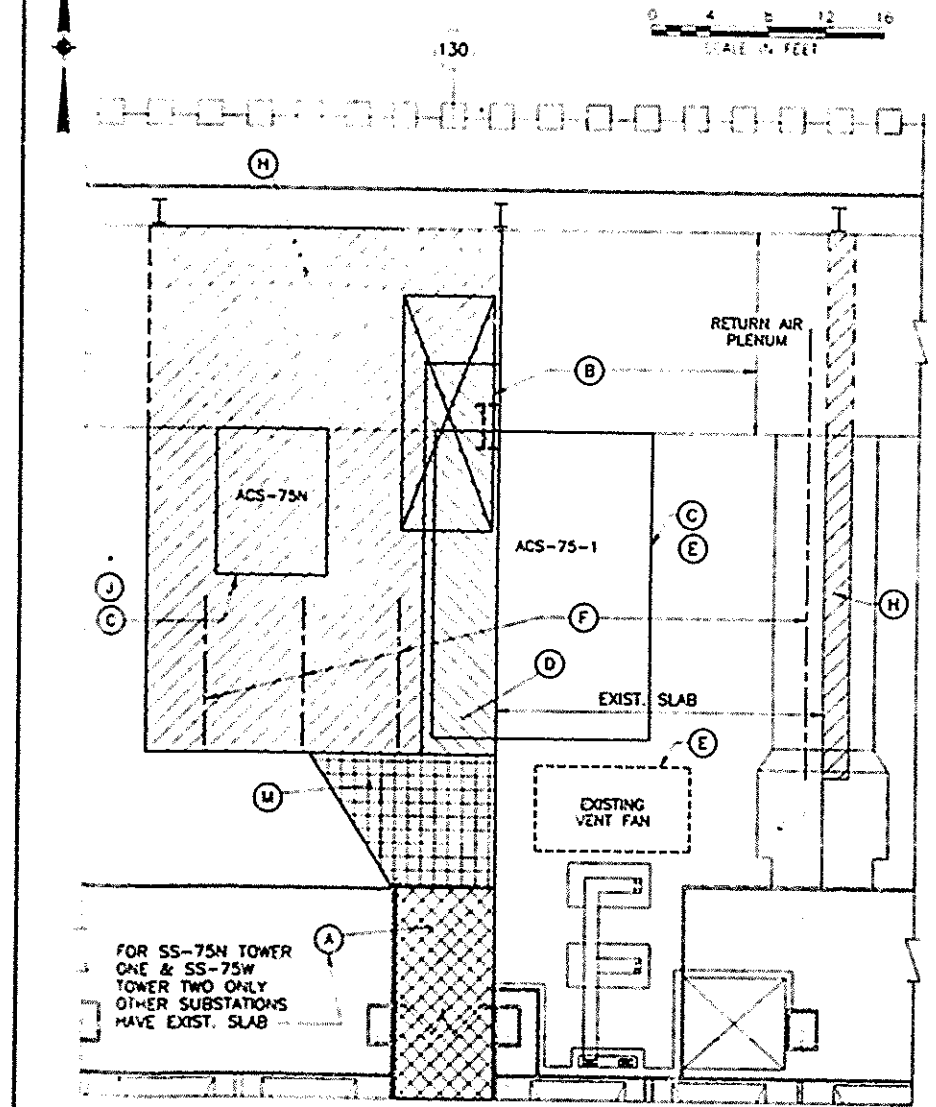
PLAN - 75th FLOOR SS-75N

STAGE II STEPS - SEE NOTE #1 & 5	
STEP	DESCRIPTION OF WORK
(A)	INSTALL FIRST HALF OF SWITCHGEAR & BUSWAY
(B)	TRANSFER LOADS FROM EXISTING SWITCHGEAR "L" BUS
(C)	REMOVE EXISTING TRANSFER SWITCH "ATS-L" AND INSTALL STEEL BEAM "X"
(D)	(SEE NOTE #2) FOR SS-75N & SS-75S ONLY
(E)	REMOVE FIRST HALF OF EXIST. SWITCHGEAR
(F)	INSTALL SECTION OF EPOXY FLOOR FOR STAGE III ELECTRICAL EQUIPMENT

STAGE II
INSTALL FIRST HALF OF SUBSTATION

STAGE III STEPS - SEE NOTE #1 & 5	
STEP	DESCRIPTION OF WORK
(A)	INSTALL SECOND HALF OF SWITCHGEAR & BUSWAY
(B)	TRANSFER LOADS FROM EXISTING SWITCHGEAR "R" BUS
(C)	REMOVE SECOND HALF OF EXIST. SWITCHGEAR
(D)	(SEE NOTE #2)
(E)	INSTALL SWITCHGEAR G&T, UPS AND 480-208/120V. TRANSFORMERS (2) COMPLETE WITH SECONDARY BREAKER AND BUSWAY
(F)	REMOVE EXIST. 480-208/120V. TRANSFORMERS (2) ON ROOF OF SUBSTATION AND UPS-TEMP
(G)	PATCH ALL OPENINGS IN FLOOR WALLS ETC.
(H)	REMOVE TEMP. PLATFORM INSTALLED IN STAGE I AND CONSTRUCT SLAB EXTENSION No. 3 76th FLOOR

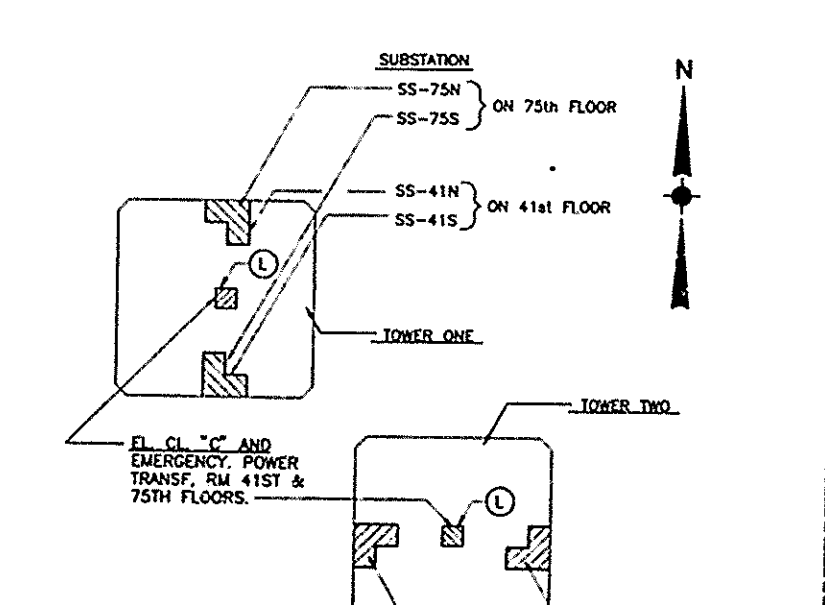
STAGE III
INSTALL SECOND HALF OF SUBSTATION



PLAN - 76th FLOOR SS-75N

STAGE I STEPS - SEE NOTE #1 & 6	
STEP	DESCRIPTION OF WORK
(A)	INSTALL SLAB FROM CORE CORRIDOR 76th FL TO SLAB ABOVE SUBSTATION
(B)	REMOVE OBSTACLES BLOCKING HVAC UNITS FROM BEING HOISTED UP TO ROOF OF EXISTING SUBSTATION
(C)	HOIST REPLACEMENT HVAC UNITS ACS-75-1 & ACS-75N UP TO ROOF (76th FL.)
(D)	CONSTRUCT SLAB EXTENSION No. 1 76th FLOOR SLAB FOR SUPPORT OF HVAC UNIT ACS-75-1.
(E)	INSTALL REPLACEMENT HVAC UNIT /ACS-75-1.
(F)	REMOVE EXIST. UNIT FROM 75th FLOOR.
(G)	INSTALL ALL STEEL FOR ROOF SUPPORT. (EXCEPT BEAM "X")
(H)	REMOVE EXIST. SUBSTATION WALLS AS SHOWN
(I)	CONSTRUCT SLAB EXTENSION No. 2 76th FLOOR AND SUBSTATION WALLS, DOORS ETC.
(J)	RELOCATE EXIST. ELEC. CONDUIT, WIRE AND EQUIPMENT OBSTRUCTING REPLACEMENT SWITCHGEAR INSTALLATION.
(K)	INSTALL REPLACEMENT HVAC UNIT ACS-75N AND REMOVE EXIST. FAN
(L)	INSTALL SECTION OF EPOXY FLOOR FOR STAGE II ELECTRICAL EQUIPMENT
(M)	INSTALL EMERGENCY POWER TRANSFORMER ROOM (ONE ROOM FOR TWO SUBSTATIONS) SEE KEY PLAN.
(N)	INSTALL TEMPORARY PLATFORM FOR ACCESS TO CDTS. BELOW DURING STAGE II & III.

STAGE I
CONSTRUCT SUBSTATION ROOM



KEY PLAN
N.T.S.

- NOTES:**
- a. EACH SUBSTATION SHALL BE INSTALLED IN THREE STAGES AS FOLLOWS:

 - STAGE I - CONSTRUCT SUBSTATION ROOM
 - STAGE II - INSTALL FIRST HALF OF SWITCHGEAR
 - STAGE III - INSTALL SECOND HALF OF SWITCHGEAR

b. THIS DRAWING SHOWS BASIC STEPS FOR SUBSTATION SS-75N, OTHER SUBSTATIONS ARE SIMILAR.

c. FOR DETAILED STAGING SEE THE FOLLOWING:

 - DWG A-2 - ARCHITECTURAL
 - DWG S-3 - STRUCTURAL
 - DWG M-2 - MECHANICAL
 - DWG P&S-1 - PLUMBING & SPRINKLER
 - DWG E-4, E-5, & E-6 - ELECTRICAL
 - AT SUBSTATION SS-75N & SS-75S, BEAM "X" SHALL BE INSTALLED IN TWO PARTS USING A TEMPORARY SUPPORT, FOR DETAIL SEE DWG. #S-3

ⓐ INSTALLED IN STAGE II FROM NORTH WALL TO TEMPORARY SUPPORT.

ⓑ INSTALLED IN STAGE III FROM TEMPORARY SUPPORT RUNNING SOUTH, REMOVE TEMPORARY SUPPORT.

THE TEMPORARY SUPPORT SHALL BRIDGE SPACE BETWEEN NEWLY INSTALLED AND EXIST. SWITCHGEAR TO PROVIDE A PATH FOR REMOVAL OF EXIST. SWITCHGEAR - STAGE II
 - WALL AND DOOR SHALL NOT BE INSTALLED IN THIS AREA UNTIL THE FOLLOWING STEPS ARE COMPLETED:

 - a - EXIST. SWGR. IS REMOVED IN STAGE II ⓐ
 - b - REPLACEMENT IS DELIVERED AND PUT IN PLACE IN STAGE III ⓑ
 - ALL FREE STANDING ELECTRICAL EQUIPMENT SHALL BE SECURED TO THE FLOOR AS RECOMMENDED BY THE MANUFACTURER AND AS SHOWN ON DWG. #A-34
 - CRIBBING SHALL BE INSTALLED ON FLOOR & IN ELEVATORS, FOR INSTALLATION AND REMOVAL OF TRANSFORMER CORE & COILS, (SEE DWG #A-20 THRU A-27 & A-35)
 - ASBESTOS SHALL BE ABATED PRIOR TO ANY WORK DONE AT THE CONSTRUCTION SITE.